# Chapter Eight: Governmental Powers to Regulate Oil and Gas Exploration, Development, Production, and Transportation

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All oil and gas activities subsequent to an oil and gas lease sale, exploration, development, production, and transportation, are subject to numerous federal, state, and local laws, regulations, policies, and ordinances. Each successful bidder awarded a lease in a state oil and gas lease sale is obligated to comply with all federal, state, and local laws. A sample lease contract is contained in Appendix C. This portion of the finding discusses the broad powers that various government agencies have to prohibit, regulate, and condition any activities related to oil and gas which may ultimately occur on oil and gas leases. A list of important laws and regulations applicable to oil and gas activities is included in Appendix B. Each of the regulatory agencies, state, federal, and local governments, has a different role in the oversight and regulation of post-lease sale activities.

Each lease issued as a result of the Cook Inlet Areawide Sale will grant the lessee exclusive rights to subsurface mineral interests. However, as discussed above, a lease does not authorize subsequent exploration or development. The lessee's rights are subject to the terms of the sale and the provisions of the lease (including the mitigation measures contained in Chapter Nine), all applicable state and federal laws and regulations, and may allow the leaseholder to drill for, extract, remove, clean, process, and dispose of any oil, gas, or associated substances that may underlie the lands described by the lease.

The director intends that the mitigation measures for the Cook Inlet Areawide Sale will apply to oil and gas activities in, on or accessing all areawide leased lands and waterbodies as a condition of issuing the lease, regardless of the ownership status of the land. To implement this policy, DNR has amended its regulations effective February 21, 1998 to require a plan of operations for activities that target state oil and gas leases regardless of surface ownership. The lease form has been revised by adding new language stating that "before any operations may be undertaken on the leased area, the lessee shall comply with the applicable statutes and regulations in effect on the date the proposed activity is scheduled to commence." The purpose of this revision is to notify potential lessees that they will have to obtain the approval of their plan of operations and comply with the areawide sale mitigation measures for any activity in, on or accessing the leased area, even if the state does not own the land from which the lessee seeks access.

The major permits and approvals that each agency requires are discussed below, with additional information on the review process on Tables 8A and 8B. The actual processes, terms and conditions proposed for activities on a leased area vary with time-certain, site-specific operations. Each agency assigns field monitors to ensure that operations are conducted as approved. The reader should consult the appropriate statutes and regulations when specifics are required, as agency procedures will change from time to time.

## A. Alaska Coastal Management Program (ACMP) Review

Permit applications for post-lease sale activities must be as detailed as necessary for a comprehensive agency review. If a project affects or occurs within a coastal area, a review of the permit application will be conducted to determine whether the proposed activity is consistent with the standards of the ACMP.

Following the review, each agency will approve or disapprove the permit and determine whether any additional protective stipulations or permit terms are required prior to approval.

The public is provided the opportunity to participate in ACMP reviews. For example, most permits needed for exploration well drilling require public notice. The ACMP permitting process goes through a 50-day agency review, and if approvals are needed by other agencies, the review is coordinated by DGC. This process provides for coordinated agency reviews, public input, and insures consistency with the ACMP and local coastal district plans. The coastal district plans applicable for this region are the MSBCMP, the MOACMP, and the KPBCMP.

To initiate the review process, the lessee or designated operator or the DGC distribute application packages to affected coastal resource districts and permitting agencies. The individual agencies initiate their consistency reviews and, if necessary, must send a request for additional information to the coordinating agency within 25 days. Public and agency review comments are due on or before day 34, and a proposed consistency finding is issued on or before day 44. Requests for additional review must be received on or before day 49, and the final consistency determination is issued on day 50 unless a reviewing agency objects and the determination is elevated. If the determination is elevated, a director's determination is issued by day 65. A citizen can petition for Coastal Policy Council to review of the proposed consistency determination after the elevation of issues.

ACMP reviews are not required for all operations. Some activities can be authorized without an ACMP review under a general concurrence from either the "A" or "B" lists. These lists are developed by agencies involved in the ACMP permitting process and are reviewed annually.

"A" List activities are activities which do not result in significant impacts to coastal resources and they do not require a consistency determination review. Cleanup activities on an existing pad are an example of an "A" list activity.

"B" List General Concurrence activities are considered routine activities that, with standard conditions, are consistent with the ACMP. Individual ACMP consistency reviews are not necessary for activities that only require permits on the B List. However, a Coastal Project Questionnaire (CPQ) application is required for all projects on the "B" List.

The coordinating agency checks the CPQ to ensure that the project meets the requirements of the "B" List General Concurrence. The coordinating agency also reviews the standard stipulations and any applicable procedures with the applicant to ensure that the stipulations will be met. Activities not on the "A" or "B" lists constitute the "C" list and are subject to the review process described at the beginning of this section.

# B. Alaska Department of Natural Resources (ADNR)

The Department of Natural Resources (ADNR), through the Divisions of Oil and Gas, Mining and Water Management, and Land, reviews, coordinates, conditions, and approves plans of operations or development and other permits as required before on-site activities take place. The department also monitors activities through field inspections once the activities have begun. Each plan of operations is site-specific and must be tailored to the activity requiring the permit. A plan of operations must identify the specific measures, design criteria, and construction methods and standards to be employed to comply with the terms of the lease. The plan must also comply with coastal zone consistency review standards and procedures established under 6 AAC 50 and 80. Applications for other state or federal agency authorizations or permits also must be submitted with the plan of operations.

**Lease Operations Plan of Approval:** Land use activities on state oil and gas leases are regulated by 11 AAC 83.158 and paragraphs 9 and 10 of the lease contract. These require the lessee to prepare a plan of operations that must be approved by ADNR through DO&G and by any other interest holder, if ownership is shared, before the lessee may commence any activities on the lease. Except for equipment uses exempted under 11 AAC 96.020, the lessee must prepare a plan of operations and obtain all required approvals and permits for each phase of exploration, development, or production prior to implementation of that activity. All permit applications and plans are available for public review.

An application for approval of a plan of operations must contain sufficient information, based on data reasonably available at the time the plan is submitted in order for the Commissioner to determine the surface use requirements and impacts directly associated with the proposed operations. An application must include statements and maps or drawings setting out the following:

- the sequence and schedule of the operations to be conducted on the leased area, including the date operations are proposed to begin and their proposed duration;
- projected use requirements directly associated with the proposed operations, including but not limited to the location and design of well sites, material sites, water supplies, solid waste sites, buildings, roads, utilities, airstrips, and all other facilities and equipment necessary to conduct the proposed operations;
- plans for rehabilitation of the affected lease area after completion of operations or phases of those operations; and
- a description of operating procedures designed to prevent or minimize adverse effects on other natural resources and other uses of the leased area and adjacent areas, including fish and wildlife habitats, historic and archeological sites, and public use areas.

Other stipulations, in addition to the mitigation measures already developed at the lease sale stage, may be required at the plan of operations approval stage. These will address site-specific concerns directly associated with the proposed project. The stipulations and the terms and conditions of the lease are attached to the plan of operations approval and are binding on the lessee. Lease activities are field monitored by ADNR, ADEC, ADF&G, and AOGCC to ensure compliance with each agency's respective permit terms. Paragraph 16 of the lease contract requires that the lessee keep the area of activity open for inspection by authorized state officials. The lessee must post a $500,000 statewide bond to cover a drill site. Lease operations approvals are generally granted for three years.

**Geophysical Exploration Permit:** The geophysical exploration permit is a specific type of land use permit issued by DO&G (11 AAC 96.010(a)(1)(E)). Seismic surveys are the most common activity authorized by this permit. The purpose of the permit is to minimize adverse effects on lands and resources while making important geological information available to the state.[1]

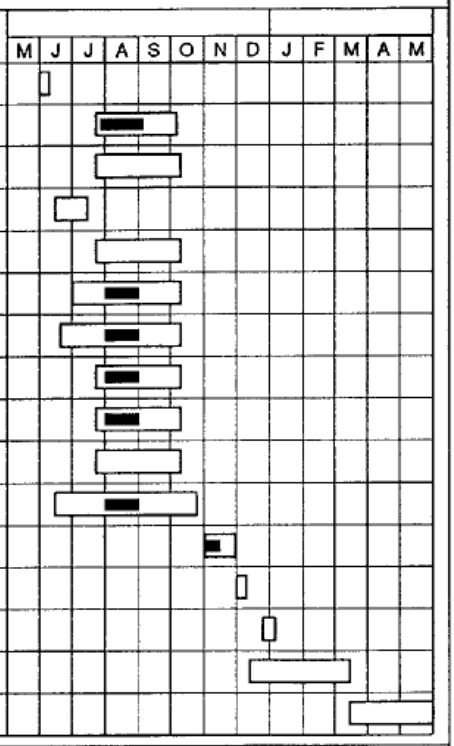
Seismic surveys in the Cook Inlet area are subject to individual 30-day ACMP reviews. If the survey is part of an exploration program, agencies will review the geophysical exploration permit application as part of the exploration well permit package.

The application must contain sufficient detail to allow evaluation of the activities' effects on the lands and resources. A map showing the general location and routes of travel, and a description of the activity and equipment that will be used must be included. Maps showing the precise location of the survey lines must also be provided, though this information is usually held confidential. A $100,000 bond is usually required.

[1] Under AS 38.05.035(a)(9)(c) the geological and geophysical data are held confidential at the request of the permittee.

## TABLE 8A: Typical Permit Process - Onshore Exploration Well in Cook Inlet Area

| ID | Name |
|---|---|
| 1 | ACMP Preapplication Conference |
| 2 | ACMP Consistency Determination - AS 46.40 |
| 3 | DNR DO&G - Lease Plan of Operations Review |
| 4 | DNR Parks - Cultural Resource Survey |
| 5 | DNR DW - Temporary Water Use Permit |
| 6 | DEC - Oil Spill Discharge and Contingency Plan |
| 7 | DEC - Certificate of Reasonable Assurance |
| 8 | DEC - Solid Waste Disposal Permit |
| 9 | DEC - Wastewater Disposal Permit |
| 10 | ADFG - Special Areas Permit |
| 11 | Army Corps of Engineer - Sec. 404 Permit |
| 12 | AOGCC - Conservation Order |
| 13 | AOGCC - Permit to Drill |
| 14 | AOGCC - Application for Sundry Approval |
| 15 | Construction and Drilling |
| 16 | Demobilization and Rehabilitation |



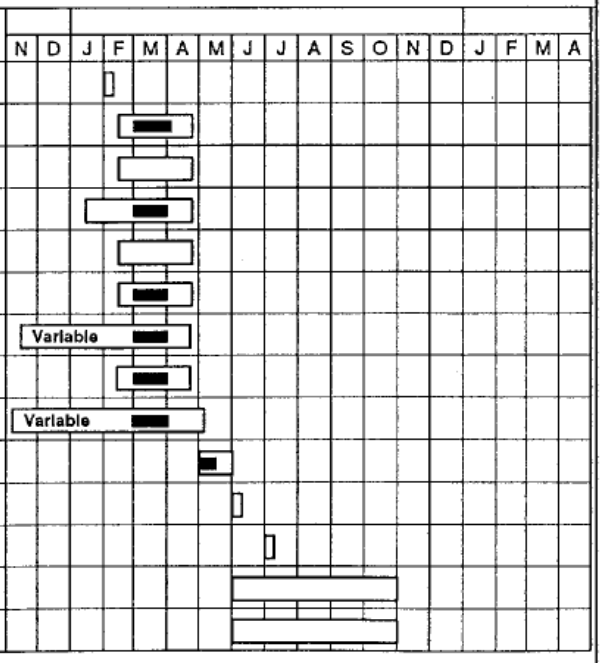

Project: Onshore
Date: 3/5/96

Permitting Activity

Public Notice

## TABLE 8B: Typical Permit Process - Offshore Exploration Well in Cook Inlet Area

| ID | Name |
|---|---|
| 1 | ACMP Preapplication Conference |
| 2 | ACMP Consistency Review |
| 3 | DNR DO&G - Lease Plan of Operations Review |
| 4 | DEC - New Oil Spill Discharge and Contingency Plan |
| 5 | DEC - Annular Injection under General Permit |
| 6 | DEC - Air Quality Permit to Operate |
| 7 | DEC - 401 Certificate of Reasonable Assurance |
| 8 | Army Corps of Engineer - Sec. 10 Permit |
| 9 | EPA - Individual NPDES Waste Disposal Permit |
| 10 | AOGCC Conservation Order |
| 11 | AOGCC - Permit to Drill |
| 12 | AOGCC - Application for Sundry Approvals |
| 13 | Drill Rig on Location |
| 14 | Discharge and Environmental Monitoring |




Project: Offshore Permit Activity
Date: 3/5/96

Permitting Activity

Public Comment Period

The permit will contain measures to protect the land and resources of the area. The permit is usually issued for one year or less but may be extended. If the permit is extended, the director may modify existing terms or add new ones when he issues the extension. The permit is revocable.

**Pipeline Right-of-Way:** Most transportation facilities within the lease area or beyond the boundaries of these areas must be authorized by ADNR under the Right-of-Way Leasing Act, AS 38.35. This act gives the commissioner broad authority to oversee and regulate the transportation of oil and gas by pipelines, which are in whole or in part located on state land, to ensure that the state's interests are protected. The Right of Way Leasing Act permits are administered by the Joint Pipeline Office.

**Temporary Water Use Permit:** Under 11 AAC 93.210-220, Temporary Water Use Permits are issued by the Division of Mining and Water Management and may be required for exploration activities. The operator must submit an application for a temporary water use permit if the amount of water to be used is a significant amount as defined by 11 AAC 93.970(14), the use continues for less than five consecutive years, and the water applied for is not otherwise appropriated. The permit may be extended one time for good cause for a period of time not exceeding five years. The application must include: (1) the application fee; (2) a map indicating the location of the property, take point and point of use; (3) the quantity of water to be used; (4) the nature of the water use; (5) the time period during which the water is to be used; and (6) the type and size of equipment to be used to withdraw the water. At the discretion of the commissioner, a temporary water use permit will be subject to conditions, including suspension and termination, in order to protect the water rights of other persons or the public interest.

**Permit and Certificate to Appropriate Water:** Industrial or commercial use of water requires a Permit to Appropriate Water (11 AAC 93.120). The permit is issued for a period of time (not to exceed five years for industrial or commercial uses) consistent with the public interest and adequate to finish construction and establish full use of water. The commissioner will, in his discretion, issue a permit subject to conditions he considers necessary to protect the public interest. The conditions include, but are not limited to, conditions that reserve a sufficient quantity of water to achieve any of the following purposes: protection of fish and wildlife habitat, recreation, navigation, sanitation and water quality, protection of prior appropriations and for any other substantial public purpose.

A Certificate of Appropriation (11 AAC 93.130) will be issued if (1) the permit holder has shown that the means necessary for the taking of water has been developed; (2) the permit holder is beneficially using the amount of water to be certified; and (3) the permit holder has substantially complied with all permit conditions. Again, the commissioner will, in his or her discretion issue a certificate subject to conditions necessary to protect the public interest. For example, the applicant may be required to maintain a specific quantity of water at a given point on a stream or waterbody, or in a specified stretch of stream, throughout the year or for specified times of the year in order to protect fish and wildlife habitat, recreation, navigation or prior appropriations (11 AAC 93.130(c)(1)).

**Land Use Permits:** 11 AAC 96.010-140. Land Use Permits are issued by the Division of Land and may be required for exploration, development and production activities. Permits have a term of one year. All land use activities are subject to the following provisions:

- Activities employing wheeled or tracked vehicles shall be conducted in such a manner as to minimize surface damage;
- Existing roads and trails shall be used whenever possible. Trail widths shall be kept to the minimum necessary. Trail surface may be cleared of timber, stumps, and snags. Due care shall be used to avoid excessive scarring or removal of ground vegetative cover;
- All activities shall be conducted in a manner that will minimize disturbance of drainage systems, changing the character, polluting, or silting of streams, lakes, ponds, waterholes, seeps, and marshes, or disturbance

of fish and wildlife resources. Cuts, fills, and other activities causing any of the above disturbances, if not repaired immediately, are subject to such corrective action as may be required by the director;

- The director may prohibit the disturbance of vegetation within 300 feet of any waters located in specially designated areas as prescribed in 11 AAC 96.010(2) except at designated stream crossings;
- The director may prohibit the use of explosives within one-fourth mile of designated fishery waters as prescribed in 11 AAC 96.010(2);
- Trails and campsites shall be kept clean. All garbage and foreign debris shall be eliminated by removal, burning, or burial, unless otherwise authorized;
- All survey monuments, witness corners, reference monuments, mining claim posts, and bearing trees shall be protected against destruction, obliteration, or damage. Any damaged or obliterated markers shall be reestablished in accordance with accepted survey practice of the division;
- Every reasonable effort shall be made to prevent, control, or suppress any fire in the operating area. Uncontrolled fires shall be immediately reported;
- Holes, pits, and excavations shall be filled, plugged, or repaired to the satisfaction of the director. Holes, pits, and excavations necessary to verify discovery on prospecting sites, mining claims, and mining leasehold locations may be left open but shall be maintained as required by the director;
- No person may engage in mineral exploratory activity on land, the surface of which has been granted or leased by the state of Alaska, or on land for which the state has received the reserved interest of the United States until good faith attempts have been made to agree with the surface owner or lessee on settlement for damages which may be caused by such activity. If agreement cannot be reached, or lease or surface owner cannot be found within a reasonable time, operations may be commenced on the land only with specific approval of the director, and after making adequate provision for full payment of any damages which the owner may suffer;
- Entry on all lands under mineral permit, lease, or claim, by other than the holder of the permit, lease, or claim or his authorized representative, shall be made in a manner which will prevent unnecessary or unreasonable interference with the rights of the permittee, lessee, or claimant. Additional stipulations may be imposed.

**Material Sale Contract:** A material sale contract must include, if applicable, but is not limited to (1) a description of the sale area, (2) the volume of material to be removed, (3) the method of payment, (4) the method of removal of the material, (5) the bonds and deposits required of the purchaser, (6) the purchaser's liability under the contract, (7) the improvements to and occupancy of the sale area required of the purchaser, (8) the reservation of material within the sale area to the division, (9) the purchasers site-specific operation requirements including, but not limited to, erosion control and protection of water; fire prevention and control; roads; sale area supervision; protection of fish, wildlife and recreational values; sale area access and public safety and (10) the date upon which the severance or extraction of material is to be completed. The director at his discretion may grant an extension not to exceed one year. When determined by the director that a delay in completing the contract is due to causes beyond the purchaser's control, the contract will be extended for a time period equal to the delay.

The director, in his discretion, will require a purchaser to provide a performance bond based on the total value of the sale. The performance bond must remain in effect for the duration of the contract unless released in writing by the director.

# C. Alaska Department of Environmental Conservation (ADEC)

The Department of Environmental Conservation (ADEC) has statutory responsibility for preventing air, land, and water pollution. Oil and gas activities, such as the disposal of drilling mud and cuttings, the flaring of hydrocarbon gases, and the discharge of wastewater, are regulated by this agency as well as the Oil

and Gas Conservation Commission if the activity involves a class II injection well. Several separate written permits are required of the operator before activity can begin. Before a solid waste disposal, wastewater or air quality permit is issued, two public notices and an opportunity for public comment (and a public hearing, if requested) are required.

**Oil Discharge Prevention and Contingency Plan:** Lessees must comply with the requirements of AS 46.04.010-900, Oil and Hazardous Substance Pollution Control. This requirement includes the preparation and approval by ADEC of an Oil Discharge Prevention and Contingency Plan (C-Plan) (AS 46.04.030 and 18 AAC 75.445). Details regarding the contents of the plan are in Chapter Six.

Prior to receiving a permit to drill, the lessee must demonstrate in the plan of operations the ability to promptly detect, contain, and cleanup any lease-related hydrocarbon spill before the spill impacts fish and wildlife populations or their habitats. This includes the capability to drill a relief well in the event of a loss of well control. ADEC has authority under AS 46.04 over both onshore and offshore activities for the purpose of preventing and cleaning up oil spills.

If transportation by water is planned, AS 46.04.030 requires that the lessee obtain ADEC approval of detailed oil spill contingency plans prior to the commencement of each aspect of the operation, including individual wells, drilling pads or platforms, pipelines, storage facilities, loading facilities, and individual tankers or barges.

**Wastewater Disposal:** Domestic greywater must be disposed of properly at the surface and a Wastewater Disposal Permit is required (18 AAC 72). Typically, waste is processed through an on-site plant and disinfected before discharge. ADEC sets fluid volume limitations and threshold concentrations for biochemical oxygen demand (BOD), suspended solids, pH, oil and grease, fecal coliform, and chlorine residual. Monitoring records must be available for inspection and a written report may be required upon completion of operations.

**Annular Injection:** If fluid is to be injected into a well annulus, a permit is required. ADEC considers the volume, depth and other physical and chemical characteristics of the formation designated to receive the waste. Injection is not permitted into water-bearing zones where dissolved solids or salinity concentrations fall below predetermined threshold limits. Waste that was not generated from a hydrocarbon reservoir cannot be injected into a reservoir.

**Solid Waste Disposal Permit:** Recent industry practice has been to utilize methods other than surface reserve pits for disposal of drilling muds, such as injection wells, where possible. In addition, the majority of muds utilized today are water-based. When a well is drilled, muds and cuttings are initially either temporarily stored on a gravel pad or collected in a reserve pit pending final disposal via injection. Discharging drilling muds and cuttings into a reserve pit requires pre-approval and a written permit. The permit addresses design, operation and closure concerns to assure that unacceptable environmental effects are avoided.

Solid waste storage, treatment, transportation and disposal is regulated under 18 AAC 60. For all solid waste disposal facilities, a comprehensive disposal plan is required, which must include engineering design criteria and drawings, specifications, calculations and a discussion demonstrating how the various design features (liners, berms, dikes) will assure compliance with regulations. Plans for containment and fluid management must be approved and endorsed by an engineer registered in Alaska.

Before approval, solid waste disposal permit applications are reviewed for compliance with air and water quality standards, wastewater disposal and drinking water standards, as well as for their consistency with the ACMP and Alaska Historic Preservation Act (18 AAC 60.215). The application for a waste disposal

permit must include a map or aerial photograph (indicating relevant topographical, geological, hydrological, biological, and archeological features), with a cover letter describing type, estimated quantity and source of the waste as well as the type of facility proposed. Roads, drinking water systems and airports within a two-mile radius of the site must be identified, along with all residential drinking water wells within a half-mile. There must also be a site plan with cross-sectional drawings that indicate the location of existing and proposed containment structures, material storage areas, monitoring devices, area improvements and on-site equipment. An evaluation of the potential for generating leachate must be presented as well. For above-grade disposal options, baseline water-quality data may be needed to establish the physical and chemical characteristics of the site before installing a containment cell.

Non-drilling related solid waste must be disposed of in an approved municipal solid waste landfill (MSWL). MSWL's are regulated under 18 AAC 60.300-397. All other solid waste (except for hazardous materials) must be disposed of in an approved monofill (18 AAC 60.400-495). A monofill is a landfill or drilling waste disposal facility that receives primarily one type of solid waste and is not an inactive reserve pit (18 AAC 60.990(81). An inactive reserve pit is a drilling waste disposal area, containment structure, or group of containment structures where drilling waste has been disposed of which the owner or operator does not plan to continue disposing of drilling waste (18 AAC 60.990(61)). Closure of inactive reserve pits is regulated under 18 AAC 60.440.

Drilling waste disposal is specifically regulated under 18 AAC 60.430. Design and monitoring requirements for drilling waste disposal facilities are identified in 18 AAC 60.430(c) and (d), respectively. Under 18 AAC 60.430(c)(1), "the design must take into account the location of the seasonal high groundwater table, surface water, and continuous permafrost, as well as proximity to human population and to public water systems, with the goal of avoiding any adverse effect on these resources." The facility must be designed to prevent the escape of drilling waste and leachate, prevent contamination of groundwater, and be of sufficient volume and integrity to prevent leakage due to erosion, precipitation, wind and wave action, and changing permafrost conditions. The plans for the proposed design and construction of the drilling waste disposal facility and the fluid management plan must be approved and signed and sealed by a registered engineer (18 AAC 60.430(c)(5)).

Today, drilling fluids are disposed of by reinjection deep into the ground. In the past, muds and cuttings were disposed of using surface disposal methods (reserve pits). Reserve pits must still be constructed for every well. Before a well may be permitted under 20 AAC 25.005, a proper and appropriate reserve pit must be constructed, or appropriate tankage installed for the reception and confinement of drilling fluids and cuttings, to facilitate the safety of the drilling operation, and to prevent contamination of ground water and damage to the surface environment (20 AAC 25.047).

Typically, a reserve pit is a containment cell, lined with an impermeable barrier compatible with both hydrocarbons and drilling mud. Typical dimensions may be approximately 130-feet wide by 150-feet long by 12-feet deep, although specific configurations vary by site. The cell may receive only drilling and production wastes associated with the exploration, development or production of crude oil, natural gas or hydrocarbon contaminated solids. The disposal of hazardous or other waste in a containment cell is prohibited. After the well is deepened, the residue in the reserve pit is often dewatered and the fluids are injected into the well annulus. An inventory of injection operations, including volume, date, type and source of material injected is maintained by requirement. Following completion of well activities, the material remaining in the pit is permanently encapsulated in the impermeable liner. Fill and organic soil is placed over it and proper drainage is reestablished. Surface impoundments within 1,500 feet are sampled on a periodic basis and analyzed. In addition, groundwater-monitoring wells are drilled and sampled on a regular basis. If there are uncontained releases during operations, or if water samples indicate an increase in the compounds being monitored, additional observation may be required.

Substances proposed for disposal classified as "hazardous" must undergo a more rigorous and thorough permitting and review process by both ADEC (18 AAC 62 and 63) and EPA. There are no available public facilities for waste disposal on the Kenai Peninsula; all existing facilities are proprietary. Proposed disposal sites for the areawide sale must be individually approved by ADEC under regulation in 18 AAC 60.200 – 240.

**Air Quality Control Permit to Operate:** The federal Prevention of Significant Deterioration (PSD) program, which is administered by ADEC, establishes threshold amounts for the release of byproducts into the atmosphere. Oil and gas exploration and production operations with emissions below predetermined threshold amounts must still comply with state regulations designed to control emissions at these lower levels (18 AAC 50). Activities that exceed pre-determined PSD threshold amounts are subject to a more rigorous application and review process. Such activities include the operation of turbines and gas flares.

For oil and gas activities, these requirements translate into the requirement for a permit to flare gas during well testing (a safety measure) or when operating smoke-generating equipment such as diesel-powered generators. Permit conditions will induce additional scrutiny if a black smoke incident exceeds 20 percent opacity for more than three minutes in any one-hour period.

The burning of produced fluids is prohibited unless failures or seasonal constraints preclude storage in tanks, backhauling or reinjection. If liquids are to be incinerated, they must be burned in smokeless flares. The open burning of produced liquids is prohibited except under emergency conditions.

Gas produced as a by-product of oil production is usually reinjected into the producing formation to maintain pressure that supports further production. Flaring is not an approved method of disposal, however, as a safety measure and backup for standard gas handling systems production facilities, which separate gas from oil, are capable of flaring large volumes of gas. Flaring occurs when the oil and gas separation process is interrupted, or when an unplanned event requires an immediate release from pressure increases. Pilot flares are an operational necessity; they are subject to permit requirements as well.

**401 Certification:** Under 18 AAC 15.120, a person who conducts an operation which results in the disposal of wastewater into the water of the state need not apply for a permit from ADEC if the disposal is permitted under an NPDES permit. When an NPDES permit is issued under Section 401 (33 U.S.C. § 1341) of the Clean Water Act, ADEC does not require a separate permit, but participates by certifying that the discharge meets state and federal water quality standards.

When an application is made, a duplicate must be filed with the department and public notice of the certification application is published jointly by EPA and ADEC (18 AAC 15.140 and 40 C.F.R. § 125.32). As a result, the state and federal reviews run concurrently. Public comment is sought and a hearing can be requested.

Following an EPA determination, but within 30-days, the department must provide the applicant, EPA, and all persons who submitted timely comments with a copy of the certification. The decision may impose stipulations and conditions (such as monitoring and/or mixing zone requirements), and any person disagreeing with the decision may request an adjudicatory hearing (18 AAC 15.200-920). Once activity begins, both EPA and the department have the responsibility to monitor the project for compliance with the terms of the permit.

The Corps of Engineers 404 permit program (see Corps of Engineers) also requires certification under section 401 of the Clean Water Act and it is processed in a similar manner. The ADEC certification is termed a Certificate of Reasonable Assurance.

**Review Process:** Following receipt of an application for a permit to dispose of solid waste disposal, wastewater, or air quality permit, ADEC must publish two consecutive notices in a newspaper of general circulation in the area affected by the proposed operation as well as through other appropriate media.

Comments must be submitted in writing within 30-days after the second publication and a public hearing may be requested. A hearing will be scheduled if good cause exists. Notice of a public hearing is handled in a manner similar to that of the initial application. Permits issued by the department may be subject to review for consistency with the Alaska Coastal Zone Management Program.

A decision on an application includes (1) the permit, (2) a summary of the basis for the decision and (3) provisions for an opportunity for an adjudicatory hearing (18 AAC 15). The decision, as conditioned, is sent to the applicant as well as each person, or entity, who submitted timely comments or testified at a public hearing. Permits may be valid for up to five years. Renewals are treated the same as the original application, but they do not receive public notice.

# D. Alaska Department of Fish and Game (ADF&G)

The Alaska Department of Fish and Game analyzes the effect of any activity on fish and wildlife, the users of those resources, and the protection of habitat. ADF&G requires permits for any activity in state game refuges, sanctuaries, critical habitat areas, and streams that contain anadromous fish, as well as other areas the agency believes might be threatened by development. Management plans control activities within many legislatively designated areas. By statute these areas are jointly managed with the Department of Natural Resources. Permits are conditioned to mitigate impacts. For example, timing restrictions are used to limit the impact on transitory wildlife. Public notice of ADF&G permit actions is not required.

**Fish Habitat Permit:** Title 16 gives ADF&G permitting authority over activities affecting anadromous fish streams that could block fish passage. A fish habitat permit must be obtained from ADF&G prior to using, diverting, obstructing, polluting, or changing the natural flow or bed of anadromous streams (AS 16.05.870). If the proposed activity obstructs fish passage, a fishway and device for the safe passage of downstream migrants may be required under AS 16.05.840.

Additionally under the ACMP, wetlands and tidelands must be managed to assure adequate water flow, avoid adverse effects on natural drainage patterns, and the destruction of important habitat (6 AAC 80.130(c)(3)). Rivers, streams, and lakes must be managed to protect natural vegetation, water quality, important fish or wildlife habitat, and natural water flow (6 AAC 80.130(c)(7)). To further protect fish and wildlife habitat, 6 AAC 80.070(b)(3) requires that facilities be consolidated, to the extent feasible and prudent.

**ADF&G Special Area Permit:** For activities in a legislatively designated area (such as a game refuge, a game sanctuary or critical habitat area), a Special Areas Permit is required (AS 16.20 and 5 AAC 95). An oil and gas exploration well in one of these areas would require a Special Area Permit. The sale area includes several special areas.

Applications must include plans, specifications and any other detail necessary to describe a proposed project fully by including a narrative addressing how activities might disturb fish and wildlife, habitat and public use. The application requests details concerning the method of construction, type of equipment, planned water use (including method and rate of withdrawal and consumption), any proposed excavation and fill, the type and location of material sources, how access will be accomplished and the number of people involved. Detailed maps with plan and cross-sectional views (drawn to scale) showing project features and the location of proposed facilities are required as well. As a condition of approval, applicants are required to

agree to compensate the state fully for damage to fish and wildlife populations or the destruction of habitat. A mitigation plan may be required.

Each project is considered in relation to the purposes for which the area was established and permit conditions are often imposed to mitigate adverse impacts. Timing restrictions that limit activity to winter are common. A project will be allowed, however, if the protection of fish and game and important habitat is not precluded.

For projects in the coastal zone, ADF&G also evaluates the project for consistency with ACMP habitat standards. The standards are summarized below. Wetlands and tidelands must be managed to assure adequate water flow, avoid adverse effects on natural drainage patterns, and the destruction of important habitat (6 AAC 80.130(c)(3)). Rivers, streams, and lakes must be managed to protect natural vegetation, water quality, important fish or wildlife habitat, and natural water flow (6 AAC 80.130(c)(7)). To further protect fish and wildlife habitat, 6 AAC 80.070(b)(3) requires that facilities be consolidated, to the extent feasible and prudent.

**Review Process:** A fish habitat permit issued by the department is subject to the Alaska Coastal Management Program consistency review process. General permits, with standard stipulations, may be issued when it is determined that the impact of frequent and recurring activities meet pre-determined criteria. Applications, including the Coastal Zone Questionnaire, are submitted to the department's Habitat and Restoration Division.

Most permit actions subject to ADF&G require a 30-day review unless surface occupancy issues or other related permits require additional time. An informal review is conducted with the Departments of Natural Resources and Environmental Conservation as well as any affected coastal districts. Public notice of ADF&G permit actions is not required.

Decisions are based upon suggestions provided by area staff, the commenting agencies and coastal districts. For special area permits and permits issued for activities in anadromous streams, an applicant may appeal a rejection or stipulation through procedures described in the Administrative Procedures Act.

# E. Alaska Oil and Gas Conservation Commission (AOGCC)

The Alaska Oil and Gas Conservation Commission (AOGCC) administers the Alaska Oil and Gas Conservation Act under Title 31. The AOGCC may investigate to determine whether waste exists or is imminent. It is also responsible for assuring that accurate metering and measuring of oil and gas production takes place.

The commission maintains programs to ensure that the drilling, casing and plugging of a well occurs in a manner that prevents (1) escapement from one stratum into another, (2) the intrusion of water into an oil or gas horizon, (3) the pollution of fresh water supplies, and (3) blowouts, cavings, seepage and fires. For conservation purposes, the commission regulates certain aspects of the drilling, production, and plugging of wells in addition to well spacing, the disposal of salt water and oil field waste and the contamination of underground water.

Reports, well logs, drilling logs and other information must be filed with the commission for each well drilled. The information is confidential for two years. However, if the data is considered especially important for the evaluation of nearby unleased land, it may be held confidential for an extended period.

**Permit to Drill:** Before drilling, a Permit to Drill, valid for 24-months, must be obtained from the commission (AS 31.05 and 20 AAC 25). The permit application informs the commission of a proposed operator's engineering and safety plans designed to ensure the structural and mechanical ability of the well to contain fluids and gases that could be encountered at various depths and under varying pressure.

With the application, a diagram of the proposed blowout prevention (BOP) equipment (used for secondary well control) must be included with an analysis of expected down-hole pressures. A BOP, along with related well-control equipment, must be installed, used, maintained and regularly tested as necessary to assure control over the well and conform to the latest technology and accepted industry practice.

Casing, cementing, and drilling fluid programs are also designed to assure primary well control. A drilling fluid monitoring program must be in place to detect gases entrained in the drilling fluid and detect hydrogen sulfide, a poisonous gas.

For exploration wells, a well-site survey is conducted using seismic techniques. The data from the seismic survey are analyzed to detect shallow gas in near-surface strata to a depth of 2,000 feet and the depths of suspected overpressured strata are predicted. For offshore wells, an analysis of seafloor conditions is required.

If climatic conditions and operational or environmental concerns become apparent, or if unplanned-for circumstances prevent the continuation of an approved program, an operator can secure a well and apply for an operational shut down. When a well is abandoned, plans for setting plugs, mudding, cementing, shooting, testing and removing the casing must be submitted to the commission for approval. Abandoned or suspended wells may remain that way for long periods of time and until final plans are made, the commission seeks to prevent the movement of fluids into or between freshwater and/or hydrocarbon sources.

Before beginning to drill, an operator must post a bond for $100,000 in favor of the state for a single well, or $200,000 for a blanket bond covering more than one well. The purpose of the bond is to insure that a well is properly completed or abandoned.

After abandonment, a location clearance is required. For onshore locations, materials, supplies, structures, and installations must be removed, debris properly disposed of and the reserve pit filled and graded. The location must be left uncontaminated, in a clean condition acceptable to state inspectors. Offshore locations must have all casing, wellhead equipment, pilings and other structures removed to a depth of 15 feet below the mud line.

**Disposal of Wastes:** AOGCC must also review and approve proposals for the underground disposal of water and oil field waste (20 AAC 25.252). Before receiving an approval, an operator must demonstrate to the commission that the movement of fluids into freshwater sources will not occur. Disposal must be into a well with equipment designed to assure a controlled release. A plat is required showing the location of other wells within a quarter-mile that penetrate the same disposal zone, and surface owners (located within one quarter-mile) must be provided with a copy of the application.

Included with a description of the fluid to be injected (with its composition, source, daily amount and disposal pressures), the application must contain the name, description, depth, thickness, lithologic description and geological data of the disposal formation and adjacent confining zones. There must be evidence presented that the disposal well will not initiate or propagate fractures through the confining zones that would allow fluids to migrate: a laboratory analysis is required. Under certain circumstances, however, a fresh water aquifer exemption may be granted (20 AAC 25.440).

Following approval, liquid waste from drilling operations may be pumped into a well drill pipe, casing or annulus. The pumping of drilling mud from reserve pits (not runoff) into exploration or stratigraphic test wells or into the annuli of a well approved in accordance with 20 AAC 25.005 is an operation incidental to drilling of the well, and is not a disposal operation subject to regulation as a Class II well under EPA regulations.

**Review Process:** Actions by the commission that have statewide application (such as adopting regulations) are conducted in accordance with the Administrative Procedures Act. Major actions, resulting in conservation orders that apply to a single well or field, receive public notice by publication in a newspaper (20 AAC 25.540). In addition, a mailing list is maintained for the purpose of sending notices, orders or publications to those who request them. There are different lists for different purposes.

# F. U.S. Environmental Protection Agency (EPA)

**NPDES Permit:** The federal Clean Water Act requires a National Pollution Discharge Elimination System Permit (NPDES) to release pollutants into the waters and wetlands of Alaska. The permitting system is designed to ensure that discharges do not violate state and federal water quality standards by identifying control technologies, setting effluent limitations, and gathering information through reporting and inspection.

Typically, approved discharges are covered by a general permit developed through a public review process after the specific location of a proposed discharge has been identified by the EPA in an Authorization to Discharge. When a general permit for a specific geographical area does not exist, proposed discharges are subject to an individual approval process and NPDES permit.

A NPDES permit covers the discharge of drilling muds, cuttings and wash water, as well as deck drainage, sanitary and domestic wastes, desalination unit waste, blowout preventer fluids, boiler blowdown, fire control system test water, non-contact cooling water, uncontaminated ballast and bilge waters, excess cement slurry, waterflooding discharges, produced waters, well treatment fluids and produced solids.

**Review Process:** Discharges needing authorization before a general permit is issued require individual permits (40 C.F.R. § 122). Once EPA receives an application for a proposed discharge, a draft permit and fact sheet is prepared to address the proposal. Public notice solicits comments and provides notification of state certification under section 401 of the Clean Water Act. It also initiates a review for consistency with the ACMP.

There is a minimum period of 30 days for public comment and all comments received must be in writing. Public hearings, if scheduled in the original notice, will be canceled if there is no interest in holding them; however, anyone can request a hearing.

If issued, an individual permit will not take effect for 30 days, during which time an aggrieved party who earlier submitted written comments may request an evidentiary hearing. EPA will respond by issuing a finding identifying the qualifying issues to be decided before an adjudicatory law judge. For general permits, notice must be published in the Federal Register and issuance may be challenged for 120 days (40 C.F.R. § 124).

A permit will not be issued unless ADEC certifies that the discharge will comply with the applicable provisions of the Clean Water Act. The certification process is addressed in an agreement between EPA and ADEC. In addition, the proposed activity must be consistent with the requirements of the Alaska Coastal Management Plan.

Persons wishing to comment on a state consistency determination or 401 certification must submit written comments within the 30-day comment period.

**Typical Permit Requirements:** Only pre-approved discharges may be released and each must be emitted in accordance with an effluent limitation designed for that particular emission at that point of discharge. After it is issued, the permit will be modified or revoked if new information justifies different conditions, or if new standards are promulgated that are more stringent than those in the original approval.

In all cases, mixing zones are established at the discharge point and produced waters are passed through at least one oil separator before discharge. Under certain conditions verification studies may be required of the mixing zone; discharge limitations are then applied as the emission passes through the mixing zone.

Only pre-approved drilling muds, specialty additives and mineral oil pills may be discharged; and maximum concentrations are specified. For each mud system, a precise chemical inventory of its constituents is maintained. Free oil or oil-based muds (those containing oil as the continuous phase, with water as the dispersed phase) may not be discharged at any time. The oil content of a discharge must be analyzed (1) at the time the fluid or additive is used, (2) when a drilling fluid could become contaminated with hydrocarbons from an underground formation, and (3) immediately when the static sheen test of a discharge indicates violation. Water-based drilling fluids that have contained diesel oil or cuttings associated with muds that contain diesel oil may not be discharged. In state waters, the discharge of cuttings with an oil volume greater than 5 percent by weight, or the discharge of free oil as a result of discharging drilling muds or cuttings is prohibited as well. A static sheen test is performed daily on emission samples as well as prior to any bulk discharge. Generally, the discharge of floating solids or visible foam is not allowed. Surfactant, dispersant and detergent discharges are minimized, but may be allowed to comply with occupational health and safety requirements. In all cases, deck drainage and wash water must go through an oil/water separator; the effluent is tested and any discharge that would cause a sheen on the receiving waters is prohibited.

**SPCC Plans:** Owners or operators of non-transportation-related onshore and offshore facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing or consuming oil and oil products must prepare a spill prevention control and countermeasures plan in accordance with 40 C.F.R.§112. Drilling rigs are included in this facility definition. The purpose of the SPCC plan is to prevent discharges of oil into navigable waters of the U.S. and the adjoining shorelines. The plan must address three areas:

1. operating procedures installed by the facility to prevent oil spills;
2. control measures installed to prevent a spill from entering navigable waters; and
3. countermeasures to contain, cleanup and mitigate the effects of an oil spill that impacts navigable waters.

The SPCC plan is facility-specific and is part of the required documentation that must be present at the facility. The owner or operator must have the plan certified by a registered engineer but does not submit it to EPA for approval prior to the beginning of operations. The plan must be available for inspection at the facility. If the facility discharges more than 1,000 gallons or harmful quantities of oil in one event or experiences more than two discharges in a twelve-month period, the operator must submit the SPCC plan to the EPA and the ADEC for review. The SPCC plan differs from the facility response plans (FRP) required by OPA 90 in that the SPCC plan focuses on prevention and the FRP focuses on response.

# G. U.S. Army Corps of Engineers

The Department of the Army regulatory program is administered by the U.S. Army Corps of Engineers (Corps). The program is under section 10 of the Rivers and Harbors Act of 1899, section 404 of the Clean Water Act, and section 103 of the Marine Protection, Research and Sanctuaries Act. The permit program authorizes activities in, on, or affecting, navigable waters as well as the discharge of dredge or fill into waters of the United States.

For purposes of administration, waters of the United States includes wetlands. The most common oil and gas activity requiring a Corps permit is the discharge or placement of fill, generally gravel or ice, on "wetlands."

The Environmental Protection Agency and the Corps jointly administer the 404 program. The Corps performs the day-to-day permitting and enforcement functions (including individual permit decisions) and jurisdictional determinations, while EPA develops and interprets environmental criteria to be used in the evaluation of permit applications. The 404(b)(1) guidelines are EPA regulations; as a result, they can (and have) exercise veto authority over permit decisions made by the Corps.

**Section 10 of Rivers and Harbors Act of 1899 (33 U.S.C. § 403):** If work is anticipated to be performed on or in (or affect) navigable waters, a permit from the Corps is required. A section 10 permit addresses activities that could obstruct navigation. Oil and gas activities requiring this type of permit would be exploration drilling from a backup drill rig, installation of a production platform, or construction of a causeway. The process and concerns are similar to those required for section 404 approval and, at times, both may be required.

**Individual Permits, General Permits and Letters of Permission:** Some oil and gas activities undergo individual project reviews. Under this process, projects are evaluated on a case-by-case basis and a public interest determination (33 C.F.R. § 320) is conducted. The Corps issues general permits that carry a standard set of stipulations that cover frequent, repetitive and similar activities when, individually and cumulatively, there will be a minimal environmental effect. A general permit describes the activity covered and includes appropriate proposed stipulations and mitigation measures. This type of permit generally has a geographical limitation. There are 36 nationwide general permits while the Alaska District has 21.

**Letters of Permission (LOP):** LOPs are a type of permit that, once approved for issuance after a public review process, undergo individual, but abbreviated reviews. These activities are routine and have been determined to have no significant environmental effect. In Alaska, LOPs are used only for activities that might have an affect on navigable waters under section 10.

**Review Process:** Upon receipt of an application, the Corps solicits comments from the public, federal, state and local agencies as well as other interested parties. They seek comments to assess the impact of the proposed activity on aquatic resources, endangered species, historic properties, water quality, environmental effects and other public interest factors. Most public comment periods last 30 days and a public hearing can be requested.

The U.S. Fish and Wildlife Service, National Marine Fisheries Service and the Alaska Department of Fish and Game submit comments to the Corps in accordance with the Fish and Wildlife Coordination Act. Their comments address compliance with section 404(b)(1) of the Clean Water Act as well as the measures they consider necessary for the protection of wildlife resources. Endangered species that frequent the area are identified and the effect the proposed activity might have on them or their habitat is considered (Endangered Species Act 1973, 87 Statute 844). In some cases, an environmental assessment or environmental impact statement may be required by the National Environmental Policy Act.

An application to the Corps serves as an application to ADEC for state water quality certification as required under section 401 of the Clean Water Act of 1977 (PL 95-217), and must be reviewed by EPA. The application is reviewed against the Act, the Alaska Water Quality Standards and other applicable state laws. For placing fill in wetlands, water quality stipulations included in the 401 Certification become part of the Corps permit (see ADEC 401 Certification).

The Corps will not issue a permit until consistency requirements for the Coastal Zone Management Act are met and a Coastal Zone Consistency Questionnaire is included with a Corps application. An applicant must certify consistency with the ACMP, and the state Division of Governmental Coordination must, based on the results of the ACMP review, concur. In addition, a review of cultural resources is coordinated with the state's Historic Preservation Office and the federal Minerals Management Service. Archeological or historical resources that could be lost or destroyed by the proposed activity are considered and presented in the Corp's final assessment of the described project.

The public interest review (33 C.F.R. § 320.4) considers guidelines set forth under section 404(b) of the Clean Waters Act. The guidelines outline a mitigation sequence that must be followed in the decision-making process that applies to all waters, including wetlands. A permit will be denied if the contemplated discharge does not meet the required standards. For placement of fill, the mitigation sequence requires avoiding wetlands where practical, minimizing impact where avoidance is not practicable, and compensating for impact to the extent appropriate and practicable.

A decision to issue a permit, with proposed mitigation measures included, is based upon an evaluation of the probable impacts (including cumulative impacts) of a proposed activity. Benefits that can reasonably be expected to accrue are balanced against reasonably foreseeable costs. Factors relevant to the decision are conservation, economics, aesthetics, general environmental concerns, wetlands, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, property ownership, and in general, the needs and welfare of the people.

## H. Other Requirements

Lessees must comply with applicable federal law concerning Native allotments. Activities proposed in a plan of operations must not unreasonably diminish the use and enjoyment of lands within a Native allotment. Before entering onto lands subject to a pending or approved Native allotment, lessees must contact BIA and BLM and obtain approval to enter.

The U.S. Coast Guard has authority to regulate offshore oil pollution under 33 C.F.R. §§ 153-157 and the federal Oil Pollution Act of 1990. The agency reviews and approves oil spill contingency plans. Most operators prepare one spill contingency plan for their facilities that meets both federal and state requirements. These are discussed in more detail in the oil spill prevention and response section of Chapter 5.

Paragraph 21 of the lease contract requires the lessee to rehabilitate the lease area to the satisfaction of the state upon expiration or termination of the oil and gas lease. The lessee is granted one year from the date of expiration or termination to remove all equipment from the lease area and deliver up the lease area in good condition.

In addition to existing laws and regulations applicable to oil and gas activities, DO&G requires, under paragraph 26 of the state's standard lease contract, that leases be subject to all applicable state and federal statutes and regulations in effect on the effective date of the lease. Leases will also be subject to all future

laws and regulations placed in effect after the effective date of the leases to the full extent constitutionally permissible.